

MANAGEMENT CLASSES AS ONLINE LEARNING COMMUNITIES

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The emergence of the digital economy is fundamentally changing the ways businesses are organized and managed. Electronic commerce, the Internet, and the World Wide Web (WWW) are the core technologies of the digital economy. They are reshaping the way every business management function is conducted in organizations. For example, these digital technologies allow marketing professionals to conceptualize and design new products, advertise over the WWW, eliminate several levels of intermediaries and sell directly to customers, and provide customer information and services via e-mail and the WWW (Department of Commerce, 1998; Negroponte, 1995; Stewart, 1997; Tapscott, 1997).

Similarly, the training function in companies is undergoing basic changes with the ability of companies to use Web-based training to deliver instruction to distant employees in their own locations. Recruitment and selection are being conducted electronically using Web databases of jobs and personnel and electronically matching the two to do first-level screening.

Investment and finance functions are changing as the Internet and WWW make global capital available through new electronic transactions. Internet-based companies are drawing large amounts of new capital directly over the Internet, circumventing conventional investment banking channels. Individual investors are now able to do investment research themselves and trade stocks electronically, avoiding full service and even discount brokers (Hagel & Armstrong, 1997; Linstone & Mitroff, 1994).

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Management education too is starting to change and address these emerging business trends. Many business schools are incorporating the Internet (and its WWW) and television and video broadcasting technologies into classroom instruction and for reaching distant learners. This issue of the *Journal of Management Education* offers many examples of the emerging trends. Despite the early advances represented by these articles, the vast majority of management faculty are still struggling to make sense of the technological onslaught that is exploding on them in all directions (Bilimoria, 1997). The management education field lacks a coherent organizing frame for understanding the role of these technologies in education and learning. This article attempts to address this lacuna by offering a conceptual and operational view of technology-driven changes in management learning and education.

I propose a framework for conceptualizing management education in the digital economy. I offer the concept of "online learning communities" as a means for understanding how management education can be organized to incorporate the emerging digital technologies. The article describes online learning environments that support the formation of online learning communities and provides a concrete example of one, which I designed and implemented in numerous institutions. It concludes with some ideas on learning processes and skills necessary to build online learning communities.

Online Learning Communities

Learning communities in this context refers to groups of people engaged in collective inquiry and enhancing their personal knowledge and application of the knowledge to work situations. In these communities, co-learners share knowledge and inquiry and find ways of using knowledge to pursue their cognitive and practical interests. As Figure 1 depicts, learning communities are loosely structured and include formal teachers and informal facilitators, managers, experts, coworkers, and outside resources operating as a network. Learning occurs from interaction in the network and from learning materials and databases. In work settings, learning communities are also "communities of practice" that consist of knowledge workers engaged in problem solving. They include multiple forms of learning and engagement from formal coursework, research and scholarship, work practices, and informal information scanning and sharing.

Interaction and mutual learning among members characterize learning communities. Until recently, such mutuality was possible only with close physical proximity. But with the advent of telecommunications, and

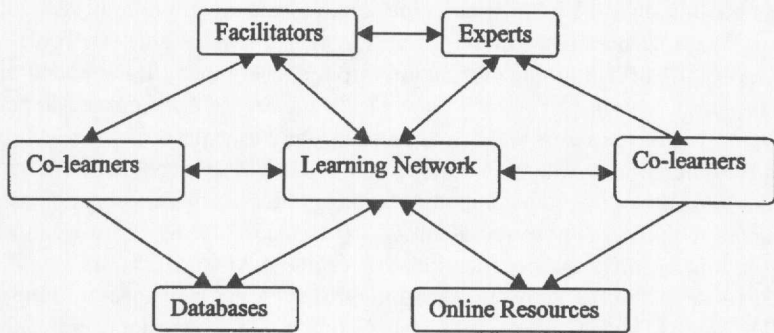


Figure 1

particularly the Internet, it is possible to have meaningful interactions over wider networked domains. Thus, learning communities can expand beyond a classroom or university or workplace organization, to spread regionally, nationally, or globally.

Online learning communities provide a basis for anytime, anywhere learning, life-long learning, and workplace-focused learning. The information to be transmitted to learners is available in a widely available medium such as the Internet and WWW. Therefore, learners can access it at any time and from anywhere they can access the Internet. The Internet also provides the medium for anytime communications via e-mail, bulletin boards, and chatrooms. These learning communities seek to be useful for lifelong learning, particularly in the context of workplace needs. Given the dynamic nature of knowledge-driven workplaces, employees have to learn continually to stay abreast of developments in their field. Online learning communities are shaped by reciprocal expectations about mutual responsibilities, engagement, time involvement, and information sharing.

The Internet and WWW (in contrast to Intranets and video broadcasting networks) are a particularly fertile media for the creation of online learning communities. They now encompass a significant part of the world (more than 200 million users in 1999) and are expanding very fast to reach the rest. The connectivity and communications capabilities of the Internet allow easy interactions across time and space.

Examples of online learning communities are now beginning to emerge in the corporate sector. The WisdomNet system of Merrill Lynch offers training to its employees using Intranets and Internet-based delivery. Dell University

has created one of the most elaborate online learning communities for its employees. It uses The MOST (The Manager's Online Success Tool) to deliver 40% of its training curriculum through its company Intranet and the Internet. It combines training with an electronic Sales Performance Support System (SPSS) to assess and manage knowledge-based performance. Microsoft is extending its internal online learning community in cooperation with other businesses offering computer-training courses. Scholars.com has contracted with Microsoft to provide MOLI (Microsoft Online Learning Infrastructure) training and certification with online advising 12 hours a day, 7 days a week. Similar knowledge systems are the basis for business training at ZDU (a Ziff Davis Company), Gartner Group Internet Learning Center, and LearnItOnline by Logical Operations Company (Hall, 1997; Quinn, 1992).

Motorola has developed Web-based training programs to educate their worldwide employees, customers, and suppliers about their rapidly evolving product base. The CAMP (China Accelerated Management Program) exemplifies their approach. The objective of the program is not just to train Chinese employees (3,500 now, going on 10,000 in 2 years) but for Motorola to become known in China as the education company. This online learning system is designed to deliver real business value in the form of knowledgeable employees, public image value as an education company, and customer loyalty value of informed customers (Meister, 1997).

In conventional universities, online learning is starting to make its appearance. A number of business schools are now offering Web-enhanced courses or Web-based distance courses. However, these early experiments are not directed to creating "communities" of any kind. They are attempts to use the Internet and WWW technologies to replace some of the teaching tasks in conventional forms of education.

Management education offers a unique venue for emergence of learning communities. Management courses have a formal structure for delivering knowledge. Management as a discipline can legitimately draw learning resources from corporations and managers typically outside the classroom. A management class can become a vibrant online learning community if it is designed for, and structured and supported by, appropriate online technologies and learning processes.

One way to establish online learning communities is for universities to get a critical mass of courses on the Internet and WWW very quickly. Critical mass refers to a sizable number of courses that allow students and teachers to form learning communities. It is difficult to identify a specific size or percentage of courses that constitute such a critical mass. The important point is to make the commitment to develop online learning not as an experiment of

one, two or a few courses but as a mainstream mode of delivering learning. The type of Webbing involved in this approach could be rather simple, such as (a) placing course syllabi on the WWW, (b) integrating key educational resources of the WWW into each course, (c) using the Web to support course delivery, and (d) incorporating online interaction and communication among learners, teachers, and outside experts to facilitate the emergence of learning communities (Shrivastava, 1998). When it is not feasible for a single university or school to offer a significant number of online courses, an online learning community can be created by joining an existing community by using a common online learning platform.

Online Learning Environments

Every online learning community requires a supporting infrastructure of technology, institutional policies, and learning practices. Online Learning Environment refers to these supporting elements.

Technology infrastructure. Technology infrastructure needed for online learning environments involve the convergence of several technologies—hardware, software, Web design and authoring, instructional design, multimedia design, telecommunications, and Internet and Intranet network management. Each of these component technologies is evolving very rapidly in their own right. The combinations and configurations of these technologies that constitute online learning environments are exploding even faster. There are hundreds of vendors who can combine these technologies in different ways to match the online learning needs of educational institutions.

The core technology for launching online learning systems is incorporated in software packages called training or education servers in a client-server arrangement. Numerous companies including Lotus, SAP, WebCT, Web Course-in-a-Box, BlackBoard, FirstClass, and TopClass make such software. Many large universities have developed in-house versions of these software programs. Other companies such as Real Education (eCollege), eSocrates, UOL Publishing, Convene, and so on are offering these software capabilities along with Web hosting of courses and faculty training and integrated online content in a complete learning environment.

Institutional policy. For successful development of online learning environments, there should be clear institutional policies and directives that legitimize the use of online learning and encourage experimentation with digital modes of learning. These policies need to open up the educational

processes to outside agents and influences that can be incorporated into learning processes. The networked nature of online learning communities requires that institutions reach outside their traditional boundaries to encompass learning resources needed by learners. These resources include digital libraries, external content experts, and institutional and knowledge stakeholders. In this context, new institutional standards and quality control policies are particularly important.

Learning practices. Online learning environment includes traditional learning and teaching practices such as information delivery, interpretation, motivation, communication, discourse, lecturing, and student assessments. Successful online learning environments provide guidance on how these traditional learning practices can be modified and revised to enhance online learning. But, in addition, online learning environments must provide the basis for inspiring learners, empowering them to self-regulated and self-paced learning, and support services that allow interactivity to occur easily and seamlessly.

To illustrate these elements of online learning environments, let us consider one recent example of a learning environment that is being used both in academic classrooms and in corporate training. It was developed by eSocrates, with the idea that multiple institutions and faculty members can use the network power of the Internet to share learning resources. eSocrates learning environment allows individual faculty from any institution to join an ongoing learning community by creating a Web site for their own respective courses, using a common technology and learning process platform.

The eSocrates online learning environment. The environmental context of the eSocrates is business education at colleges and universities. The design was premised on the assumption that the advent of the Internet and WWW, electronic commerce, and the digital economy called for a different knowledge ecology of business education—one that leveraged new information technologies, served the needs of knowledge work, and provided lifelong learning communities to learners. Recognizing the strategic importance of the Internet and WWW, eSocrates was built around a nexus of Internet-based services. It allows instructors and learners to create a learning community for themselves to pursue their interests and commitments over extended periods and share their learning with others using eSocrates. Several business school faculty (at Bucknell University, York College, Peirce College, St. John University, Rosemont College, etc.) have used eSocrates to launch online business courses.

eSocrates represents a knowledge ecosystem that simultaneously serves as an educational information service, as a Web-based course development tool, and as a basis for creating electronic-learning communities. It allows instructors and trainers to create their own course or knowledge Web sites and enhances what they create with embedded knowledge resources. This embedded knowledge is in the form of regularly updated links to numerous educational and student interest resources on the Web. Instructors, learners, and other knowledge sources can interact via this program to cocreate knowledge and perform educational functions typical in education (Shrivastava, 1983).

eSocrates was designed for Web-shy instructors and students who are allergic to programming but still want all the benefits of Internet- and WWW-based teaching and learning. It is built on the technological core of the Internet and WWW but can be executed on corporate or university Intranets. This technological core is transparent to instructors, administrators, and students. That means any registered user can create online courses and use them for learning without knowing any programming, HTML, FTP, or telecommunications; or owning or managing Web servers, networks, and software. The user interface is flexible and works on any Internet-accessible computer.

The program facilitates common teaching functions in a networked computing environment. These include course administration function, knowledge management and exchange, and synchronous and asynchronous communications using e-mail, electronic bulletin boards, and chatrooms. Course administration includes course description in terms of its objectives, design, structure, expectations, tasks, instructor background, experience and/or expertise, grading scheme used, assignments, class schedule, class/lesson notes, exams, and so on. It assists learners to acquire relevant knowledge, perform communicative tasks, cumulate knowledge, and apply it in relevant real-life settings.

Knowledge agents and resources are embedded in eSocrates course Web sites in the form of electronic library and links to knowledge experts. It contains modules in management subjects such as strategy, environment, culture, organizational structure, human resources management, and so on, as well as modules in marketing, finance, accounting, and entrepreneurship. Currently, there are more than 70 modules and 30 case studies that users can choose from. Within the next 2 years, modules will be available to cover all business topics. It also contains more than 1,000 hyperlinks to corporate sites, full-text articles, other publications, book reviews, business research tools, investment information, and access to databases, newspapers, and

magazines. Learners (business students) have additional peripheral knowledge links to job and career information, resume help, entrepreneurship information, graduate studies, general learning skills, discount books and supplies, and fun/humor Web sites. These links are automatically updated periodically and maintained by the program. Instructors can add additional knowledge resources of their own, whenever they want.

Networked communications occur via bulletin board, chatrooms, individualized e-mail, and community listservs. These capabilities allow the instructor to easily extend the boundaries of online learning communities. Instructors can invite electronic visitors to their classes to interact with student on the bulletin board. They can hold online chats with key managers, CEOs of companies, and other external learning resources. A variety of communications options and formats are available for threaded discussion, administrative notices, interaction on projects, and personal communication. The communicative network can be expanded to other courses and learning opportunities outside the school or university via the use of the Web-ring capability.

Because numerous learners at several universities are using eSocrates for learning about management subjects, the system serves as an online learning community that extends to different schools and countries. Faculty using eSocrates in their classes maintain their own class schedule and complete autonomy. But there is enough commonality in materials and learning goals and enough connectivity in communications that many classes or individuals within them can easily share ideas with others within the system. Collaborative projects and virtual teamwork with learners from different classes, courses, and institutions are also possible.

Many business schools are now experimenting with different forms of online learning, ranging from simple online courses to significant attempts at creating community. The Duke GMBA program, the Ohio State University's MBA Without Boundary, and Simon Fraser University MBA programs are good examples of innovation in online learning. Each of these programs involves on-campus courses (or presence) and some online components. There is online interaction among students and between students and their instructors. They use semistructured discussions on database lists, chatrooms, and bulletin boards. Sometimes, the participants are geographically dispersed. Participants also have the opportunity to do team projects online in virtual teams. Outside resources are used by students and instructors to enhance their learning by interacting with managers in their own companies and professional associations.

Online Learning Processes, Facilitation, and Skills

eSocrates and other online learning environments add different types of values to the teaching function. For instructors, eSocrates offers a means for extending their knowledge base to include the rich resources of the Internet, WWW, and Intranets into their teaching. Instructors also save time because the system provides automated grading of quizzes, serves online learning materials to students, and streamlines course administration. Students benefit by getting the enormous informational resources of the Internet and learning Internet skills. Use of free or very low-cost access to electronic resources has added value in some cases in reducing the total cost of educational materials.

Online learning communities are space and time independent. They are free of geographical constraints of physical classrooms, permitting distance learning. Learning can occur among people in time and space asynchrony. It makes knowledge resources and interactive instruction available to whoever can access the Internet. For educational institutions and corporations, this offers potential cost savings. It allows training to occur when needed and when the learner is most ready for it. Learning can be in-situ at the site of the learners, allowing for mobile learning, off-time learning, and emergency learning.

For learners, online learning provides the value of a lifelong and continual learning venue. Learners can accumulate their learning from courses, special topics, work projects, and can integrate them into their own knowledge sites for future reference. This cumulative knowledge site is an extended virtual brain deployable at will by the learner in different jobs and locations.

Online learning communities require specialized learning skills. Both learners and instructors need to be computer and Internet literate. They should know basic Web browsing, e-mail communications, and simple computer programs for word processing. Beyond these technical skills, online learners need to understand that in this new learning context, the challenge is not collecting and assimilating scarce and limited information. On the contrary, they must learn to extract relevant and valid information from an information surplus environment of the Internet.

In online learning communities, the facilitator plays a central role in designing the community learning venues and occasions and coordinating the learning process. Management faculty can play the role of the facilitator, but it places them in a different position than that of a conventional teacher/instructor. In addition to providing the framework for a course and acting as resource persons, instructors must facilitate communicative,

interactive, and active learning. They must learn to structure and coordinate discourse with and among learners and with outside experts. The role of the instructor is not to be the center of learning but a coach and manager of learning processes. This way, learning communities become learner centered and not instructor centered.

Online learning communities require building a personal informatics capability that is independent of institutional constraints. For learning to be truly anytime, anywhere, mobile and portable, individual learners will need to build their own personal information systems. The hardware and software costs of doing this are falling dramatically. For less than a \$1,000 one-time investment and a \$20 per-month Internet access charge, a person can now be equipped with enough of a technology infrastructure to allow robust access to online communities. Independence from institutional infrastructure allows individuals to carry their learning capacities with them when they change jobs, physically relocate. It allows them to circumvent institutional limitations imposed by firewall-protected Web resources.

Creating Online Learning Communities

To implement these concepts of online learning, I provide below four essential elements for creating learning communities in the context of business education.

Technology and content infrastructure. This is the substantive heart of learning communities. It includes the computer and human communications networks on which community is built and the learning resources that can be made available to learners. The choices here are many. Communities can be implemented on Intranet platforms or the Internet platform; and electronic content in the form of databases, digital libraries, and proprietary information is expanding rapidly. A good online learning community will be based on a judicious choice of technological and content elements that are updated periodically to meet the evolving needs of learners.

An organizational learning model. Online learning communities do not fit easily with the traditional model of learning pursued by most institutions of higher learning today. Online communities are not classroom based, they are not preprogrammed into a 20- or 30-course program over a 2- to 4-year period. In contrast, they seek anytime, anywhere learning oriented to improving work performance. So, they must be consistent with the organizational learning model pertinent to the workplace of learner.

Managed interactivity services. A significant part of learning involves interactions with peers, facilitators, outside experts, occasional guests, and even random visitors. For this sort of interaction to be sustained, there is need for providing services that entail bringing learning resources into interaction with learners. There is need for organizing, planning, and implementing interaction services.

From a process point of view, it is best to establish an interdisciplinary project team that can guide the planning and development of online learning community. This team should include trainers/faculty/instructors, computer network administrators, librarians or content experts, and representatives of learners. This project team would be charged with a clear goal of developing all aspects of the learning community and integrating it with the institutions' learning systems. Top management support for this effort is critical because successful online learning communities often involve creative destruction of existing policies and cultural practices. Support from the top makes these difficult decisions happen in meaningful time frames.

Retraining facilitators. The biggest challenge in creating online learning community is rethinking the role of instructors/faculty or facilitators. The Internet and WWW are very learner-centered media. Active learners are empowered by this medium to seek out the knowledge that they need. Online learning communities are learner centered. In contrast, most traditional classrooms are instructor centered. Instructors in typical business schools often do not have experience of being good process facilitators. Their courses are not designed to promote student-led learning. For faculty conditioned and socialized in traditional ways of teaching, their displacement from the center raises both pedagogical and emotional challenges. Faculty will need to be retrained in online teaching skills and instructional design. They may also need to be supported with instructional services, graphics design, Web design, and multimedia design services.

In implementing learning communities, one must expect the usual barriers to organizational change in the form of resistance to change, political detractions, budgetary constraints, technological constraints, and need for training participants. Training people to understand the complexity and nuances of forming virtual communities is especially difficult because this topic is poorly understood and has no strong guidelines.

As the Internet and WWW mature, business schools and business organizations will be increasingly challenged to address the educational and training needs of knowledge workers in the digital economy. They will need to develop learning programs for lifelong learning, anytime anywhere learning,

and just-in-time work-integrated learning. They will be challenged to integrate Internet and related digital technologies into management education in ways that reflect the changes these technologies are forcing in the workplace. The online learning community concept offers one vision for meeting these challenges.

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